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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,342	01/25/2005	Akihiro Tachibana	US01-04066PCT	6310
21254 7590 01/22/2007 MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			EXAMINER LAMB, CHRISTOPHER RAY	
			ART UNIT 2627	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/522,342	Applicant(s) TACHIBANA ET AL.	
	Examiner Christopher R. Lamb	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-10, 18-20, 28-30 and 38-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-10, 18-20, 28-30 and 38-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/14/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 8-10, 18-20, 28-30, and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horimai (US 2004/0062178 A1) in view of Fuji (US 5,465,248).

Regarding claim 8:

Horimai discloses a holographic recording apparatus (Fig. 2) for recording data on a holographic recording medium in the form of a flat plate (Fig. 1) which includes a recording layer comprising a photosensitive material (paragraph 81) and for which recording is achieved by an interference pattern of a coherent light beam (paragraph 69), the apparatus comprising:

a pickup including an objective lens which focuses the coherent light beam (paragraph 83), for moving the objective lens along a recording track of the holographic recording medium (paragraph 74) and detecting reflected light from the recording track to perform focus- and tracking-servo control (paragraph 71);

a relative velocity determination unit for determining a relative velocity of a converging position of the objective lens with respect to the holographic recording medium (paragraph 156);

Art Unit: 2627

a driving unit for changing a relative position of the objective lens with respect to an optical path of the coherent light beam (paragraph 74); and

a control unit for performing recording for the recording layer during the predetermined period (paragraph 72, 158).

Horimai does not disclose:

"wherein the driving unit moves an incident optical path of the coherent light beam to the object lens based on the relative velocity determined by the relative velocity determination unit such that a moving distance of the converging position relative to the holographic recording medium falls within a half a period of a pitch of interference fringes at least during a time period for recording the piece of data, the interference fringes being generated by the coherent light beam."

Fuji discloses:

A polygon mirror arranged in an optical path of the coherent light beam to move the incident optical path of the coherent light beam to the objective lens (column 6, lines 30-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Horimai wherein the driving unit rotates a polygon mirror arranged in an optical path of the coherent light beam to move the incident optical path of the coherent light beams to the objective lens, as taught by Fuji.

The motivation would have been to improve the stability of the recording (Fuji uses the polygon mirror for the same result required by Horimai: reducing the relative speed between the recording medium and the light spot. Fuji discloses in columns 1-4

Art Unit: 2627

various alternative methods for achieving this result and discloses that this method is the best).

The combination of Horimai in view of Fuji thus discloses:

wherein the driving unit moves an incident optical path of the coherent light beam to the object lens (the polygon mirror moves the optical path) based on the relative velocity determined by the relative velocity determination unit (Horimai already controlled the movement of the object lens based on the relative velocity determination unit: the extension to Horimai in view of Fuji is obvious) such that a moving distance of the converging position relative to the holographic recording medium falls within a half a period of a pitch of interference fringes at least during a time period for recording the piece of data (Horimai holds the relative recording position constant during the entire period for recording the piece of data. Horimai: paragraph 158. Thus the moving distance of the converging position relative to the holographic recording medium is zero during this period, which is definitely less than half a period of the pitch of the fringes), the interference fringes being generated by the coherent light beam (Horimai: abstract).

Regarding claim 9:

In Horimai in view of Fuji the driving unit rotates a mirror arranged in an optical path of the coherent light beam to move the incident optical path of the coherent light beam to the objective lens (the polygon mirror, as discussed above).

Regarding claim 10:

The driving unit rotates a polygon mirror arranged in an optical path of the coherent light beam to move the incident optical path of the coherent light beam to the objective lens (discussed above).

Regarding claims 18-20:

The reproduction apparatus of Horimai in view of Fuji is also a reproducing apparatus (Horimai paragraph 70).

Regarding claims 28-30 and 38-40:

These are method claims corresponding to the earlier apparatus claims and are met when the apparatus operates.

Response to Arguments

3. Applicant's arguments filed November 7th, 2006 have been fully considered but they are not persuasive.

Applicant argues (pages 11-13) that "Horimai fails to teach or suggest 'wherein the driving unit moves an incident optical path of the coherent light beam to the objective lens based on the relative velocity determined by the relative velocity determination unit such that a moving distance of the converging position relative to the holographic recording medium falls within half a period of the pitch of the interference fringes' " and that Fuji fails to overcome this "deficiency."

In response, the Examiner notes that Horimai in view of Fuji is relied upon to reject this claim. Fuji is relied upon to teach moving the incident optical path of the coherent light beam to the object lens. However, the details of the converging position relative to the medium are a part of the base reference, Horimai, and this is where

Art Unit: 2627

Applicant's argument is centered: Applicant argues (last paragraph of page 12) that Horimai only discloses that the moving speed of the position is equal to the moving speed of the information area, further noting that the objective lens moves at a constant relative speed.

Applicant is correct in this summary of Horimai, except in one key point: this disclosure by Horimai is sufficient to meet the claim.

The converging position of the claim is the position of the light spot (from the two beams) relative to the recording medium. Applicant's claim language, therefore, insists that the light spot not move, relative to the recording medium, by more than the specified distance (half a period of the pitch of the interference fringes).

Horimai in view of Fuji holds the light spot constant relative to the recording medium during recording, as Applicant has noted. If the light spot is held constant, then the converging position is also held constant relative to the recording medium. If the converging position is held constant, the moving distance is zero. Zero is less than the distance specified by Applicant, and therefore the moving distance of the converging position of Horimai in view of Fuji "falls within" the distance specified in the claim.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Satoh et al. (US 4,104,489), Satoh et al. (US 4,224,480), Bardos (US 3,964,032).

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2627

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

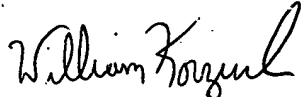
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 1/9/06


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